KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMEN AT JULESBURG LOCAL AREA, MOPANI DISTRICT IN LIMPOPO PROVINCE

by

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DEDICATION

This study is dedicated to my two daughters, my angels, my everyday inspiration, Ntswalo and Rivi.Your unconditional love have contributed in motivating to the success of this study.

DECLARATION

I declare that **KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMEN AT JULESBURG LOCAL AREA, MOPANI DISTRICT IN LIMPOPO PROVINCE** is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete reference and that this work has not been submitted before for any other degree at any other institution.

…… ……

Lucy Maluleke Date

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DEFINITION OF CONCEPTS

Knowledge: Knowledge is the information, understanding and skills that one gains through education or experience (Oxford Advanced Learners Dictionary 2010). In this study, knowledge refers to the awareness about the importance of using ante natal care services by pregnant women.

Perceptions: Perception is the way one notice things especially with the sense, the ability to understand the true nature of things (Oxford Advanced Learner's Dictionary 2010). In this study, perception refers to the way pregnant women understand ante natal care services.

Ante natal care services: The care that is received by pregnant woman from health care workers. During ante natal visits, the pregnant woman is checked for pregnancy problems, she is also assessed for risk, treatment of problems that might arise is done, medication that may improve pregnancy outcome is given, information is given to the woman and the woman is prepared for childbirth (Department of Health 2016). In this study ante natal care services refers to services that are given to pregnant women to ensure favourable outcome for both the mother and the baby.

ABREVIATIONS

ANC:	Ante Natal Care
APH:	Ante Partum Haemorrhage
CNP:	Clinical Nurse Practitioner
HIV:	Human Immune Virus
PNMR:	Peri Natal Mortality Rate
PPH:	Post Partum Haemorrhage
WHO:	World Health Organization

ABSTRACT

Background: Ante natal care (ANC) service is a very important intervention to track the progress and to identify complications that might arise during pregnancy. The first ANC visit at a health facility is even more important as health providers are able to identify whether there are any risks to the mother and the unborn child and it should be initiated at the 1st trimester of pregnancy.

Objectives: The study aim was to establish the knowledge and perceptions about ANC services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo Province.

Methods: A quantitative cross-sectional research approach was used at six primary health care facilities in the Julesburg Local Area of the Mopani District in Limpopo Province. Stratified random sampling was used. Data were collected from 293 pregnant women using a self-administered questionnaire. . Data analysis was done using the International Business Management Statistical Package for Social Sciences 23 (SPSS 23).

Results: The results reveal that a high percentage of pregnant women have adequate knowledge with regard to ANC services. The results further show that knowledge level of pregnant women has no association with educational level (P=0.488). With regard to perception, half of the respondents have positive perceptions of ANC services, while a further half have negative perceptions of these services.

Conclusion: ANC service is of great importance to further reduce maternal and neonatal deaths as most of these deaths are avoidable. There is a need to strengthen the training programme of staff by providing further training exposure and health information to pregnant women with regard to the important of early ANC initiation and frequency of ANC visit need to be intensified.

Keywords: Health care workers, antenatal care, knowledge, perception, initiation, utilization.

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Antenatal care (ANC) is very important to track the progress of a pregnancy, to identify the complications that might arise during pregnancy and at delivery of the baby. The first ANC visit at a health facility is extremely important as health providers are able to identify if there are any risks to the mother and to the unborn child. Health providers should have the necessary skills to attend to pregnant women during the ANC visit and the ability to give information to pregnant women about the importance of an early ANC visit. ANC services comprise the complete health supervision of pregnant woman in order to maintain, protect and promote the health and wellbeing of the mother and the baby (Ojong, Uga & Chiotu 2015) It is important that as soon as a woman suspects that she might be pregnant, or at first missed period, she visit a health facility for confirmation of her pregnancy and further help (Department of Health 2016). An early visit to the health facility makes it easier to identify problems early on and to address them. Therefore, ANC care should be initiated at the right time.

The World Health Organization (WHO) recommends that the first ANC visit should happen in the first 8 to 12 weeks of pregnancy (WHO 2016). During the first ANC visit, several assessments are conducted, which include measurement of blood pressure, measuring weight, history-taking and conducting a blood examination, including counselling and testing for HIV. A physical assessment is also undertaken. After every assessment has taken place, the woman is then categorised to ascertain whether she falls into a low risk or high risk profile. This allows for the planning of her care throughout the duration of her pregnancy and at time of delivery (Department of Health 2016). WHO (2016) recommends a minimum of four visits.

A study conducted in South West Nigeria shows that 61% of women have a negative perception about ANC and only 15% of these women have good knowledge regarding ANC (Fagbamigbe, Akanbiemu, Adebowale, Olumide & Korter 2013). Results of a study undertaken in South Eastern Tanzania indicate that the majority of women initiate ANC late,

on average after five months gestation (Gross, Alba, Glass, Schellenberg & Obrist 2012). A comparative study, which was conducted between Birmingham (UK) and Pretoria (SA), reveals that women from Birmingham initiate ANC earlier and went more often than did women in Pretoria, although women in both cities had equal access to ANC care services. Results show that most pregnant women in Pretoria only attend antenatal clinic services once, in order to confirm their pregnancy (Openshaw, Bomela & Pretlove 2010).

Poor knowledge of and perceptions about ANC services can lead to poor utilization of ANC services, including negative pregnancy outcomes and high rate of perinatal mortality. This could happen as a result of complications which can develop during the pregnancy period. Complications, such as hypertension, anaemia, haemorrhage, infections such as malaria and HIV, are most common amongst pregnant women. These complications can be managed and controlled if they are discovered early, especially in the first trimester of pregnancy, although these problems can develop at any time during the pregnancy. Knowledge of the importance of ANC is, therefore, important. It is important that as soon as the woman discovers or suspects that she is pregnant, she should visit a health facility. Visiting a health facility early during the first trimester of pregnancy makes it easier for healthcare professionals to identify problems and to address them (Department of Health 2016).

1.2 RESEARCH PROBLEM

The researcher has observed that most pregnant women present late for initiation of ANC in the Julesburg Local Area in the Mopani District of Limpopo. Some women came to this facility as late as at the end of the second trimester of their pregnancy. When asked of their reasons for presenting so late, they cite several reasons, including the fact that they come late because they only want to deliver at the health facility. Some of these women said they have been advised by their relatives as to when is the right time to start initiating ANC services; they said they must start at least at six months for fear of making many follow-up visits if they initiate ANC very early. Some said they did not know when the right time was to initiate ANC services. It seems that they were treating ANC services as curative services; they were just registering for delivery.

ANC services in South Africa are free and the majority of pregnant women have access to them, however, some pregnant women access these ANC services late in their pregnancy. According to national statistics, the proportion of women who initiate ANC during the recommended time, that is, within the first twelve weeks of pregnancy, is very low. The National Department of Health's (NDoH) Annual Report stated that only 40, 2% of pregnant women in South Africa initiated ANC in the first 20 weeks of pregnancy (Govender 2015).

1.3. RESEARCH QUESTION

The research questions were:

What is the knowledge about ante natal care services by pregnant women in Julesburg Local Area, Mopani District in Limpopo Province?

What is the perceptions about ante natal care services by regnant women in Julesburg Local Area, Mopani District of Limpopo Province?

1.4 PURPOSE OF THE STUDY

1.4.1 Aim of the Study

The aim of the study was to establish the knowledge of and perceptions about ANC services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo of Province.

1.4.2 Objectives of the Study

- To investigate the knowledge of ANC services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo Province.
- To describe perceptions about ANC services among pregnant women.
- To establish the relationship between demographic factors and knowledge and perceptions among pregnant women.

1.5 LITERATURE REVIEW

A literature review is a critical summary of research on a topic of interest which is consulted to put a research problem into perspective or to summarise existing evidence (Polit & Beck 2012). A review of the literature assisted the researcher to identify what other researchers

have done and reported on with respect to the research problem. Literature on ANC services, knowledge of ANC services, the importance of ANC services and perceptions about ANC services among pregnant women around the globe was reviewed.

Knowledge of the importance of antenatal services by pregnant women plays an important role, as this will raise awareness among pregnant women. Initiation of antenatal care services at the right time during pregnancy will reduce maternal and neonatal mortality. Initiating antenatal services at the right time of pregnancy will enable health providers to discover complications, which can be managed properly before they affect the outcome of the pregnancy (WHO 2011).

Poor knowledge of and perceptions about antenatal care services can lead to the underutilization, or poor utilization, of antenatal services. This can lead to negative pregnancy outcomes, such as a high rate of perinatal mortality. This could happen as a result of complications which can develop during pregnancy. Complications, such as hypertension, anaemia, haemorrhage, infections such as malaria and HIV are most common among pregnant women. These complications can be managed and controlled if they are discovered early in the first trimester of pregnancy. A literature review will be fully dealt with in Chapter 2.

1.6 RESEARCH METHODOLOGY

A quantitative cross-sectional research design was used. The study looked for the existence of a relationship between knowledge of and perceptions about antenatal care services and how pregnant women view antenatal care services provided in the Julesburg Local Area in the Mopani District of Limpopo Province. Quantitative research is a formal, objective and systematic process in which numerical data are used to obtain information about the world (Burns & Grove 2009).The cross sectional design provides a snapshot of an outcome and the characteristics associated with it (Lavrakas 2008). The design helped the researcher obtain more information in a short period of time, as it took little time to conduct the research. Methodology used in this study will be further discussed in Chapter 3.

1.7 SIGNIFICANCE OF THE STUDY

The study contributed to the body of knowledge on ANC services. It has generated recommendations which may help improve the knowledge of and perception about ANC services through health promotion activities designed to make pregnant women aware of ANC services. The information may be used to develop improvement plans aimed at improving the use of ANC services by pregnant women and also an improvement in access to antenatal care services.

The research study will assist in revealing gaps that may exist in health care providers' skills and, therefore, the study will help in generating intervention strategies regarding the improvement of health care provider training with respect to ANC service provision. ANC service provision is important to instil confidence in pregnant women to promote early ANC initiation. Assessment of pregnant women's knowledge of ANC will also assist in identifying gaps so that the design of an intervention programme is well informed.

1.8 CHAPTER OUTLINE

Chapter 1 provides an overview of the study.

Chapter 2 discusses literature of other studies undertaken on the knowledge of and perceptions about antenatal services among pregnant women.

Chapter 3 outlines the methodology used in the study, which includes, research design, study site, sampling, inclusion and exclusion criteria, data collection, validity and reliability, bias and ethical consideration.

Chapter 4 deals with the results of the study.

Chapter 5 focuses on a discussion of the findings, limitations of the study and recommendations.

1.9 CONCLUSION

This chapter focused on the background of and orientation to the study and research framework. It discussed the research problem tackled in the study, the aim of the study, the purpose of the study, the research question, research methodology employed - which will be discussed in detail in Chapter 3, and the significance of the study. The next chapter will deal with a review of the literature.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 1 presented an overview of the study, the research problem, research questions and the objectives, methodology, significance of the study, as well as the ethical considerations. This chapter deals with a review of the literature. According to Burns & Grove (2009), a literature review is a process that involves finding, reading, understanding and forming conclusions about the published research and theory on a particular topic. In most studies, a literature review is done at the onset of the study and is updated or extended during final phase of the study. The purpose for a literature review is to determine what is already known about the topic to be studied so that a comprehensive picture of the state of knowledge on the topic can be obtained. This helps to minimise the possibility of unintentional duplication and increases the likelihood that a new study may make a distinctive contribution to the body of knowledge (Brink 2010). A review of the literature assisted the researcher to identify what other researchers have done and reported on the in relation to the research problem. Its main goals are to place the current study within the body of literature and to provide context for a particular review. A literature review substantiates the research problem, showing that the problem exists and establishes the need for the present research. The researcher used the literature review process to develop a comprehensive understanding of the research topic. The literature review process helped the researcher to identify gaps in the current knowledge and begin to establish the conceptual or theoretical framework to be used in the study (Norwood 2010).

This chapter deals with a review of the literature on ANC services benefits and utilization, initiation of ANC, frequency of ANC visits, knowledge of and awareness about ANC service and perceptions about antenatal services.

2.2 ANC SERVICES BENEFITS AND UTILIZATION

ANC involves the health care of pregnant women in the months and weeks leading up to the birth of their babies. Antenatal care is aimed at detecting problems which may already be present or those problems that may develop during pregnancy affecting the mother or her unborn child. A pregnant woman should visit a health care provider as soon as she suspects that she is pregnant, as early as at the first missed menstrual period (Department of Health 2016).

A complete assessment of gestational age and risk factors can be made at the first ANC visit (South Africa 2016). ANC ensures a normal pregnancy by maintaining and improving the general health of the pregnant woman. Early detection of complications, referral and management of complications during ANC ensures normal labour by preparing the woman for labour psychologically and physically. ANC prepares the woman for care of a new-born and promotes health education and family planning (Smith 2010).

During the ANC visit, pregnant women are given information, verbally, in writing or in the form of illustrated cards or pamphlets, about danger signs and symptoms to be aware of during pregnancy, self-care in pregnancy, the delivery plan and new-born and infant care (Department of Health 2016). Ferguson, Davis and Brown (2013) say that women attending antenatal education may result in less false labour admissions, pregnant women experiencing less anxiety and more labour intervention. ANC education has a positive effect on how women deal with their pregnancy experience.

A study which was conducted in Karachi City on the assessment of awareness of and attitudes towards antenatal care reported that 79% of women received insufficient knowledge on the importance of initiation of ANC in the first trimester of pregnancy .In this study, the majority of women viewed advice, reassurance and a reduction in the risk during pregnancy as less important, which is a vital function of ANC, where women are given information pertaining to their pregnancy and the delivery (Sharique, Sharique, Younus & Mahesh 2015).

A study conducted in four countries, namely Ghana, Kenya, Uganda and Tanzania, indicated that the benefits of ANC are underestimated (Adiwanou & LeGrand 2013).

However, results of a study undertaken in the Enugu State of South East Nigeria indicated that a high proportion of women recalled four or more danger signs during pregnancy, which was higher among rural women than among their urban counterparts (Ossai & Uzochukwu 2015). Awareness about the danger signs in pregnancy can lead to pregnant women utilizing ANC service properly. Contrary to the Enugu State of South East Nigeria study, the utilization rate of antenatal services was reported to be very low, at 24.6%, in a Benin rural setting (Edgard-Marius, Charles, Jacques, Justine, Virginie, Ibrahim & Laurent 2015).

A study conducted in Tanzania, in the Dodoma Municipality, revealed that women have inadequate knowledge regarding the importance of coming early for their first antenatal appointment (Lilungulu, Matovelo & Gesase 2016). This may impact negatively on the utilization of ANC services. Mubyazi (2015) indicated that the reasons why pregnant women in Tanzania attended ANC was to be informed about the development of the foetus and about the pregnancy. These findings indicate that women in this area do not understand the reasons why attending ANC services are important, which may impact on the utilization of these services. Meanwhile, 70, 5% of women in the Mufundi state that their reason for attending ANC was to receive health education and advice. In this region, there are women who did not attend ANC in time and gave as reasons the fact that they realised that they were pregnant late in their pregnancy; the pregnancy was unwanted and they felt stigmatised by their relatives or community; domestic or official occupation commitments and perceived lack of benefits of attending an antenatal clinic were also given as reasons.

ANC utilization appears to be a problem among pregnant women around the world. This is supported by a study conducted in Kembata on 401 pregnant women, which reports a prevalence of late entry to antenatal care by 68, 6% of women. Age, maternal education, family income parity, previous utilization of antenatal care and the type of pregnancy were cited as factors that influence late initiation of ANC in this region. ANC is viewed as curative rather than preventive (Tekelab & Berhan 2014). A study conducted in Kampala among pregnant adolescent women revealed that factors affecting utilization of ANC services included long waiting hours and lack of education, among others (Resty 2011).

ANC utilization is important in ensuring the health of pregnant woman and development of the baby. The importance of ANC utilization is supported by a study conducted in the

Notches' District in Malawi where 85% of women agreed that ANC enable them to receive preventive treatment. High parity, long distance to facility, seeking permission to start and use ANC, maternal perception of showing off the pregnancy and fear associated with witchcraft were factors associated with low utilization of ANC (Banda, Michelo & Hazemba 2012). A report on a survey in Saving Babies in South Africa indicates that the perinatal mortality rate in South Africa is 33.4/1000 live births. This is associated with the way in which ANC services are implemented, management of labour, resuscitation of the neonate and care of the premature neonate (Pattinson & Rhoda 2014).

2.3 INITIATION OF ANC

Initiation of ANC services should happen during the first three months of pregnancy, in the 1st trimester of pregnancy (South Africa 2016). Early commencement of ANC by pregnant women has the potential to affect both maternal and foetal outcome positively (Ndidi & Oseremen 2010). A study conducted in rural and urban settings in South Africa indicated that prevalence of early initiation in the urban area is 84% of women attending ANC as opposed to 45% of women in the rural setting (Muhwava, Morojele & London 2016).

A study conducted in Tembisa Hospital indicated that long waiting times at public facilities promote late initial of ANC visits, as late as the third trimester of pregnancy. Irregular visits were also prevalent in this ANC clinic. This was exacerbated by shortage of midwives (Mauwane & Phaladi-Digamela 2014). This finding was supported by a study conducted in Khayelitsha which indicated that the prevalence of late initiation of ANC was associated with ignorance of the booking procedure, denial or late recognition of unplanned pregnancy, provider barriers, cumbersome booking system, absence of ultrasound and perceived poor quality of care (De Vaal 2011).

A study was conducted on 262 mothers in a village of Nepal which found that 51, 8% of women initiated ANC late, during their second trimester of their pregnancy. The number of children that the women had and the maternal education received were found to be contributing factors (Pradhan, Bhattarai, Paudel, Gaurav & Pokharel 2013). This was supported by a study conducted in Myanmar which indicated that there was a prevalence of late initiation of ANC services among pregnant women. The results of this study indicated that the prevalence of late initiation of ANC was 52, 2% with a 95% CI: 50, 6 %- 61, 6 % (Aung, Win, Nay, Hlaing & Win 2016).

A study conducted in Cameroon indicated that 6% of women initiate ANC in the first trimester, while 14% commence with ANC in their third trimester (Edie, Obinchemti, Tamuyor, Njhie, Njamen & Achid 2014). In Mpongwe and Ndola District of Zambia, the prevalence of late initiation of ANC is 72% and 68, 6% respectively (Banda et al. 2012). In the Lilongwe District of Malawi, 98% of pregnant women initiate ANC as late as after 12 weeks of pregnancy. Educational status, religion, complications from previous pregnancy, knowledge about ANC benefits, distance to health facility, availability of health services, lack of resources, worker's attitude and long waiting hours contributed to women initiating ANC late in Lilongwe (Chiwaula 2011).

Women in the Niger Delta gave reasons that they initiated ANC late with the belief that there are no advantages in booking for an ANC in the first three months of their pregnancy. In this area, ANC is viewed as curative rather than preventive (Ndidi et al. 2010).Meanwhile women in South Western Nigeria face challenges of culture, income, occupation, where a woman resides at home and dependend on their husbands to determine when to start initiating ANC (Adekoya & Aloku-Arowola 2012). This indicates clearly that pregnant women do not understand why they have to attend ANC services. It is also an indication of how women perceive ANC which determines whether the pregnant woman will use ANC services regularly, as indicated by guidelines. Contrary to most findings, a study conducted in the UK involving 20 135 women, found that 62% initiate ANC prior to 12 weeks while 12, 1% initiate ANC after 20 weeks of pregnancy (Cresswell, Yu, Haterall, Morris, Jamal, Harden & Renton 2013).

Early initiation of ANC is associated with the early detection of pregnancy problems and better management of pregnancy complications. This was supported by a study conducted in 106 countries on the progress towards attaining the Millennium Developmental Goals 4 and 5, which reported that deaths among children under-five has declined from 7,2 million in 2011; 2,2 million of which were early neonatal, 0,7 million of which were late neonatal and 2,1 million of which were postnatal. Maternal mortality declined from 409, 100 in 1990 to 273,500 deaths in 2011 (Lozano, Wang, Foreman, Rajaratnam, Naghavi, Marcus, Dwyer-Lingering, Lofgren, Phillips, Atkinson, Lopez & Murray 2011).

2.4 FREQUENCY OF ANC VISIT

A study conducted in the Dodoma municipality in Tanzania reported that 12.4% of pregnant women came for their first antenatal booking in the first trimester of their pregnancy (Lilungulu et al. 2016). A study conducted in Guatemala, Honduras, Mexico, Nicaragua, Panama and EI Salvador I ndicated that women in these regions were not attending ANC as required. Pregnant woman should be attended by a skilled birth attendant at least five times during their pregnancy (Dansereau, McNellan, Gagnier, Desai, Haakenstad, Johanns, Palmisano, Rios-Zertuche, Schaefer, Zuniga-Brenes, Hernandez, Iriarte & Mokdad 2016). Education level among women in Zambia is associated with attending ANC, with women with a higher level of education attending ANC at least four times in their pregnancy compared to those with no education (Muyanda, Makasa, Jacobs Musoda & Michelo 2016).

Resty (2011) revealed that majority of pregnant teenagers accessed ANC between one to three times, while about 43.8% accessed ANC between three and four times and 3.1% of women accessed ANC between five to six times during their pregnancy.Complications during pregnancy are health problems that occur during pregnancy. They can involve the mother's health, the baby's or the health of both mother and baby. It is important for women to receive health care before and during pregnancy to decrease the risk of complications. Complications related to pregnancy include intrauterine growth restriction, antepartum haemorrhage, multiple pregnancy, breech presentation, transverse lie, preterm labour, pre-labour rupture of membranes, chorioamnionitis, prolonged pregnancy, vaginal birth after previous caesarean section, rhesus incompatibility and poor obstetric history (Department of Health 2016).

Adverse pregnancy complications, such as hypertension, diabetes, infections such as HIV, malaria, syphilis and anaemia can contribute to poor pregnancy outcomes, including maternal and neonatal deaths. Such conditions can be prevented and treated in time, if discovered early during the first trimester, although these conditions can develop at any stage of pregnancy. Regular monitoring of the progress of pregnancy can minimize these conditions from developing into complications (Department of Health 2016).

2.5 KNOWLEDGE AND AWARENESS ABOUT ANC

Knowledge of and awareness about ANC among pregnant women is vital. This is most important as it determines the utilization of the service by pregnant women. Poor knowledge of and low perceptions about ANC will impact negatively on service utilization. If perinatal mortality is to be dealt with, knowledge of and perceptions about ANC among pregnant women cannot be left unattended. Ignorance of ANC will lead to poor utilization of the service (Fagbamigbe et al. 2013).

A study conducted in a number of primary health centres in Riyadh City in Saudi Arabia revealed poor ANC knowledge (Otaiby, Jradi & Bawazir 2013). Knowledge and attitude of pregnant women towards ANC in the University of Calabar Teaching Hospital in Nigeria showed that pregnant women are knowledgeable; however, this study recommended that there should be an intensified awareness campaign about ANC services (Ojong et al. 2015). A study in the Kano State of Nigeria demonstrated good knowledge and awareness of ANC services, although some of the women did not attend ANC, even though they are aware of ANC services on offer. Some women were not aware of the importance of utilizing ANC services (Sanda 2014).

A poor or moderate level of knowledge is associated with a negative perception about ANC in Thailand. Those who have a fair amount of access to ANC information were more likely to have a negative perception of ANC compared to those who have easy access to ANC (Iino, Sillabutra & Chompikul 2011). Meanwhile, the minority of pregnant women (12, 9%) in the Okupa local government in South West Nigeria have poor knowledge about ANC (Fagbamigbe et al. 2013).

However, a cross- sectional survey conducted at primary health care level in Nnewi in Nigeria regarding the knowledge of and perceptions about the satisfaction of 280 women who were utilizing maternity services, found that the women's knowledge of the quality service was good and that they were satisfied with the service, despite the poor quality of services provided (Nnebue, Ebenebe, Adinma, Iyoke, Obionu & Ika 2014).

Awareness and information given to clients is important as this will determine whether clients are aware of antenatal issues. The route via which information is disseminated is even more important as specific populations should be targeted to ensure that the

information reaches the desired target. Some women are not aware of ANC services because they are less educated about ANC services and they do not perceive the importance of attending ANC services (Sanda 2014).

Some pregnant women have their own preference as to when they want to receive information regarding pregnancy during their pregnancy period and also how they want to receive this information. In a study on knowledge and preferences in Saudi Arabia, 60, 0% of women said that they would prefer to receive information during their first trimester on suggested topics such as pregnancy symptoms, foetal development stages, dietary regimen, danger signs and symptoms during pregnancy. A low percentage of women (44,7%) preferred being told about postpartum issues during the second trimester, while 47,0% of women preferred to be told about signs of complications during pregnancy and labour symptoms during the third trimester of their pregnancy. Women in this study had their own preference regarding educational strategies. About 51, 3% of women preferred receiving antenatal education in a way that uses a combination of strategies, such as motivation and support, guidance and problem solving. Most women preferred to be given health information by their physician, while 17, 1% preferred to be given information by a health educator, 4, 3% preferred the internet and very low percentage of women preferred the media (Otaiby et al. 2013).

A study on media awareness and utilization of ANC services by pregnant women in the Kano State of Nigeria indicated that there was an inadequacy of health information provided by the media, resulting in underutilization of ANC services. This can have negative impact on maternal health and mortality. Results of this study show that pregnant women have good knowledge of ante natal services; however, some of these women do not attend ante natal services (Sanda 2014). Poor perceptions of ANC services led to the underutilization of ANC services in a rural area of KwaZulu-Natal in South Africa. Poor perceptions of ANC services in this area included perceived poor design of health facilities, the waiting system and the behaviour of health workers. These factors determine a client's decision to seek early and ongoing antenatal care. Lack of information about the importance of going to the clinic early in pregnancy was a factor influencing late access of antenatal care services (Amnesty International 2014). A study conducted on pregnant women admitted to the Mulango Hospital in Uganda during the ante partum period indicated that there is low awareness and little knowledge about the danger signs (Mbalinda, Nakimuli, Kakaire, Orinda, Kak ande & Kaye 2014).

2.6 PRECEPTION OF ANC SERVICES

A study which was conducted in the Kisoro District reveals that ANC services were inconsistent and inadequate; and differed from the recommendation guidelines set by the international guidelines for maternity services. Pregnant women in this study had a poor perception of staff. They expressed feelings of being scared to be assisted during delivery by the staff because of their bad reputation, mistreatment by ANC providers and rude behaviour. However, there were some pregnant women who express positive perceptions of the staff, saying that the staff had saved their lives and that of their baby by identifying problem that they were experiencing (Gloria 2010).

A study conducted in Uganda revealed that the ANC service was affected by long waiting hours, lack of education and distance to health centres. Contrary to the Uganda experience, findings at the Neguru state showed that ANC services were user-friendly (Resty 2011). In Thailand, 59, 9% of women had positive perceptions regarding ANC, while 40, 9% of women had a negative perception (Iino et al. 2011). A cross-sectional survey, which was conducted among 460 pregnant women and nursing mothers in South West Nigeria, indicated that 64, 1% had a negative perception of ANC (Fagbamigbe et al. 2013).

A study which was conducted on 502 pregnant women in Gambia on women's perception of ante natal care services in the public and private institutions showed that 79, 9% of women were satisfied with services at the public institution, while 97, 9% of the women were satisfied with services at the private institution. Pregnant women using the public institution expressed their dissatisfaction because of inadequate privacy, space, neatness and communication with care providers (Jallow, Chou, Liu & Huang 2012).

Staff behaviour and the availability of drugs and other facilities resulted in a negative impact on the people in a community of Pakistan. Past experience was one of the important factors influencing the decision to visit government facilities for maternal health care. Most people who visited these centres did not have good experiences during their previous visit. Negative attitudes towards government health institutions were found in 57, 7% percent of women, however, 42, 3% had a positive attitude (Ghaffar, Pongpanich, Chapman, Mureed & Ghaffar 2012).

In a final report about the perceptions and experiences of adolescent mothers accessing antenatal care services in Tanzania, pregnant women indicated that they were not satisfied with accessibility of ANC services as they were turned away or were referred to another health facility. Some women were left unattended, although some women had a good understanding of the fact that ANC promotes good health. Some women expressed professional distance as preventing participants from having a good relationship with health practitioners and felt that they were not treated poorly (Lenters, Hackett, Barwick & Zlotkin 2015).

Mubyazi (2015) indicated that the reasons for ANC visits in Tanzania in two facilities, Mkurango and Mufindi, were the fact that women wanted to be informed about the development of the foetus and the pregnancy in general. Those who did not attend ANC did so because of a perceived lack of benefits of attending ANC .In this study patients felt humiliated when they were treated in an open space where lack of privacy was an issue; advice about family planning, HIV prevention and treatment matters were offered to them in an open space. Poor conditions identified were reported as a disappointment to service users, which acts as a hindrance to clients to visit health facility. Existing facilities, human and material resource were at 52, 8% and 57, 8% of women in the two facilities. Waiting time was acceptable by 32, 6% and 39, 2% of the women in the two facilities (Mubyazi 2015).

2.7 CONCLUSION

Chapter 2 focused on the literature review undertaken to gain insights into the findings of other researchers on the knowledge of and perceptions about ANC services. Various publications by different authors were consulted. Most literature read revealed that some pregnant women have poor perceptions and poor knowledge with regard to ANC services. Poor knowledge and perception in the literature reviewed showed poor utilization of antenatal services. The literature reviewed provided the researcher with information regarding different methodologies used to research the topic. The next chapter deals with the research methodology used in this research.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION.

The previous chapter focused on reviewing the literature regarding knowledge of and perception about ANC services. This chapter focuses on the research methodology used in this study and encompasses research design, the study site, the study population, sampling, inclusion and exclusion criteria, data collection methodology, data analysis, validity, reliability and ethical considerations.

3.2 RESEARCH DESIGN

A quantitative research approach was used to determine the knowledge of and perceptions about antenatal care services among pregnant women in the Julesburg Local Area of the Mopani District in Limpopo Province. Quantitative research is defined as a formal, objective and systematic process in which numerical data are used to obtain information about the world (Burns & Grove 2009). A cross sectional research design was used.Cross-sectional research design is a design in which data is collected at one point in a time so that variables are measured and compared which will help in drawing inferences from the findings (Polit & Beck 2012). The research design provides a snapshot of an outcome on the characteristics associated with the outcome (Lavrakas 2008). The design helped the researcher to obtain as information in as short time as possible and so it took less time to conduct the research.

3.3 STUDY SITE

The study was conducted at the primary health care facilities in the Julesburg Local Area located in the Greater Tzaneen Municipality in the Mopani District in Limpopo. A map of the Mopani District Municipality is attached as Figure 3.1. The Julesburg Local Area has seven health facilities which include a community health centre, a mobile clinic and five fixed clinics. The mobile clinic did not part of the study. There are also several general private practitioners located in the area. There is one district hospital, which situated within the local area and patients from clinics in the area are referred to this hospital. Julesburg Local Area is a rural area. It comprises of Sepedi and Xitsonga ethnic people. Most people in this

area practice farming. Culture in this area is valued and respected by people. Cultural practices, such as traditional healers and spiritual healers, are respected in this area.

Figure 3.1 Map of Mopani District Municipality showing local municipalities (Local government handbooks 2016).

3.4 STUDY POPULATION

A population is defined as any group of individuals who have one or more characteristics in common that are of interest to the researcher (Brink 2010). The study population comprised of pregnant women who were attending ANC at the primary health facilities in the Julesburg Local Area in the Mopani District of Limpopo Province. The population of attending ANC in the Julesburg Local Area was approximately 4302 women for the period of January to December 2014 (South Africa, 2014). When broken down according to primary health care facility, figures were as follows: Carlotta Clinic 1255, Jamela Clinic 765, Julesburg Health Centre 946, Mogapeng Clinic 773, Tours Clinic 199 and Zangoma Clinic 364. This information was obtained from the District Health Information System. These clinics were

selected because they offer ANC services. The study was conducted among pregnant women in the Julesburg Local Area. Participants in this study met the following criteria:

- They had to be attending antenatal clinic services at the primary health care facilities in the Julesburg Local Area;
- They had to be pregnant;
- They had to give consent to participate in the study;
- Participants had to be over the age of 18 in order to give legal consent;
- Participants had to be from the six fixed clinics of Julesburg Local Area.

3.5 SAMPLING

Sampling refers to the process or procedure of selecting a smaller group, called a sample, from within a defined population to represent that population. A stratified random sampling method was used. A random sample is one in which every element in the population has an equal and independent chance of being selected from the sample (Crowther & Lancaster 2009). The sample size was determined using the Slovin formula where N stands for population and E represent error of estimation. The calculation was undertaken as follows:

$$n = \frac{N}{1 + NE2} = \frac{4302}{1 + 4302(0.05)2} = \frac{4302}{1 + 10.755} = 365.9719268$$

Therefore $\pi = 366$

Participants were drawn from the six primary health facilities which is a number of strata, Carlotta Clinic, Jamela Clinic, Julesburg Health Center, Mogapeng Clinic, Tours Clinic and Zangoma Clinic.These facilities are situated in the rural area of Julesburg Local Area. Carlota Clinic has a population size of 1255 pregnant women, 765 in Jamela Clinic, 946 in Julesburg Health Center, 773 in Mogapeng Clinic, 199 in Tours Clinic and Zangoma Clinic has 364.Julesburg Local Area has a population size of 4302 of pregnant women.Facilities were stratified and the sample size was determined using a 95% confidence interval with a margin error of 5% of a population size of 4302. The calculated sample size which was needed was 366. To cater for non-responses the sample size was increased to 393.Based on this sample size,respondents were randomly drawn from the six health facilities proportionally to the size of each facility(stratum) as shown in table 3.1 below.Numbers were allocated to each possible participants in each clinic.Sample size of 310 was required

in Carlotta Clinic,19 in Jamela Clinic,22 in Julesburg Health Center,19 in Mogapeng Clinic, 4 in Tours Clinic and 9 in Zangoma Clinic.Each number was written on a square piece of paper and placed in a container (Brink 2010). The pieces of paper we mixed thoroughly and numbered pieces of paper were withdrawn from the container until the desired sample was reached.

TABLE 3.1 SUMMARY OF STRATIFICATION OF FACILITIES IN JULESBURG

Facility	Carlotta Clinic	Jamela Clinic	Julesburg Health Centre	Mogapeng Clinic	Tours Clinic	Zangoma Clinic	Total
Population	1255	765	946	773	199	364	4302
% of total	29,1%	18%	22%	18%	4,6%	8,4%	100%
Sample Size	310	19	22	19	4	9	393

3.6 DATA COLLECTION

Data were collected through a self-administered questionnaire which was developed with questions aimed at determining the knowledge of and perception about antenatal services among pregnant women in the Julesburg Local Area of the Mopani District in Limpopo. Close-ended questions were used. The questionnaire was written in English, however, since the Julesburg Local Area comprises of Sepedi and Xitsonga ethnic groups, questionnaires was translated into these language (Appendice A, B & C). The researcher, who is a Tsonga First Language speaker and is competent in Sepedi, undertook the translation. Section A of the questionnaire collected sociodemographic information. Section B collected information on knowledge of ANC services among participants. Section C collected information on perceptions about antenatal services among participants. The questionnaire was developed after reviewing the literature (Ekott, Ovwigho, Ehigiegba, Fajola & Fakunle 2012; Fagmigbe et al 2013; Mbalinda et al. 2014 and Nnebue et al. 2014). Data were collected during the week from 6 June to 31 July 2016.

3.7 INCLUSION AND EXCLUSION CRITERIA

All pregnant women attending an antenatal clinic at the primary health care facilities in the Julesburg Local Area had the same probability of being included in the study. The mobile clinic was excluded from the study; only fixed clinics and community health centres were included in the study. Pregnant women under the age of 18

years of age were excluded because they are minors and cannot give legal consent to participate in research.

3.8 DATA ANALYSIS

Data analysis is a process of examining and interpreting data in order to get meaning and gain understanding (Grove, Burns & Gray 2013). Data were analysed using IBM SPSS Statistic version 23. Descriptive statistics, such as frequencies, was used to analyse the data. The chi-square test at a significance level of .05 was used to test the relationship between demographic factors and knowledge and perception.

3.9 RELIABILITY AND VALIDITY

3.9.1 Validity

Validity is a degree to which an instrument measures what it is supposed to measure (Polit & Beck 2012). The content of questionnaires was phrased in such a manner so as to address the objectives of the study. The research proposal was presented to the researcher's supervisor and peers.There are several types of validity:

- Face validity-Refers to the ability of instrument to measure what it suppose to measure.Questions in the questionnaire were relevant to the topic.
- Construct validity-The instrument measures the characteristics it suppose to measure in such a way that the outcome of the study is achieved.In this case the target population was identified and the objectives of the study were identified to address the problem statement.
- Criterion validity-The degree to which content on a test correlates with performance on relevant criterion measure.The questionnaire was tested on 10% of pregnant women at Shiluvane Health Center to realize if the questions in the questionnaire achieve the desired results.Results of this test was used to make necessary changes in the questionnaire.
- Content validity-Refers to how well the elements of the study relates to the content domain.Questions in the questionnaire relate closely to real life situation.Objectives of the study address the problem statement.
- Consequences validity-The extent to which the assessment served its intended purpose.Results of the study should be used to generate recommendations (Politt & Beck 2012).

3.9.2 Reliability

Reliability occurs when an instrument measures the same thing more than once and keeps on giving the same outcome (Norwood 2010). Reliability is the consistency with which the instrument measures the target attribute (Polit & Beck 2012). Reliability was ensured by testing and retesting the questionnaire on 10% of the population.Responses from testing and retesting were deemed to be consistent therefore no corrections were found to be necessary.

3.9.3 Pre-test

The questionnaire was pre-tested on 10% of the population which comprised of pregnant women from Shiluvane Health Centre. The Shiluvane Health Centre was not included in the study. Results of the pre-test revealed that the questionnaire was concise and clearly understandable therefore the questionnaire was not adjusted.

3.10 Bias

Every member of the population was given an opportunity of being included in the study through probability sampling. Participants completed the questionnaire independently without the influence from the researcher.

3.11 ETHICAL CONSIDERATIONS

Research ethics is the ethics of planning, conducting and reporting on research. When human beings are used as study participants, care must be exercised to ensure that their rights are protected (WHO 2011; Polit & Beck 2012).Several ethical issues should be considered such as:

- Scientific design of the study: Research is ethically acceptable. The research should rely on valid scientific methods.
- Risks and potential benefits: Risks have been prevented by minimizing potential harm and maximizing potential benefits.
- Selection of study participants: The research ensures that no group of persons bears more than its fair share of burdens of participating on the research.
- Protection of research participants' privacy and confidentiality: Invasion of privacy and breaches of confidentiality are disrespectful to participants and can lead to feelings of loss and embarrassment.

- Informed consent: This is the principle of respect for persons. Competent individuals are entitled to choose freely whether to participate in research and to make decisions based on adequate understanding.

3.11.1 Protecting the rights of institutions

The right of the institution was protected by obtaining permission to conduct research from the Limpopo Department of Health and the Mopani District (Appendix H & I) before conducting the study. Information pertaining to the institution was kept confidential by keeping questionnaires in a locked cupboard to prevent unauthorised access. The researcher told the respondents not to write the name of the institution on the form when completing questionnaires, as suggested by (Polit & Beck 2012).

3.11.2 Protecting the rights of individual

- **Principle of respect for persons**

The researcher treated the respondents with dignity and recognised their autonomy. The respondents were informed about the process of research, the research problem, the purpose of the study, the objectives of the study and the benefits thereof. Informed consent (Appendix D, E & F) was obtained from the respondents to allow them to take part in the study voluntarily. The respondents were given the freedom to participate in or opt out of the survey at any time. Confidentiality is a pledge that any information participants provide will not be publicly reported on in a manner that identifies them (Polit & Beck 2012). Confidentiality of all information obtained from the respondents was maintained. Information about the participants and information obtained from the participants was stored safely and only the researcher hasd access to this information. Anonymity of the respondents was ensured by not using respondents' names on the questionnaires. Respondents were informed how confidentiality and anonymity was ensured (Polit & Beck 2012).

- **The principle of beneficence**

The principle of beneficence refers to a duty to minimise harm and maximise benefits (Polit & Beck 2012). The benefits of participating in this study are improved ANC service delivery in primary health care facilities. The results of the study will add to the body of knowledge which will inform policy makers through recommendations which were generated. No harm was incurred to participants as a result of participation in the study. A counsellor was on

hand to assist the participants with counselling at the place where the research was taking place, in case any participants showed adverse emotional reaction as a result of their participation.

- **The principle of justice**

The principle of justice refers to fairness and equity which relates to participants' rights to fair treatment and their rights to privacy (Polit & Beck 2012). The researcher ensured that all participants meeting the selection criteria were given a chance to participate and to benefit from participating (Polit and Beck 2012).

3.11.3 Scientific integrity of the researcher

The researcher has an obligation to the discipline of science to conduct and report research. The researcher waited for the proposal to be given ethical clearance by the Turfloop Research Ethical Committee (Appendix G) before commencing with data collection. Permission to access participants was given by the Limpopo Department of Health (Appendix H) and by the Mopani District (Appendix I). Approvals were submitted to the Assistant Manager of the Julesburg Local Area. The researcher followed guidelines for conducting quantitative research from both the University of Limpopo and the researcher's supervisors. The researcher is a professional nurse and followed the ethical principles of nursing.

3.12 CONCLUSION

This chapter focused on research methodology used for the study of the knowledge of and perception about antenatal services among pregnant women in the Julesburg Local Area, Mopani District in Limpopo Province. A quantitative research approach was employed in the study. Sampling and inclusion and exclusion criteria were described. The procedure used to collect data was explained. The data analysis methodology used was outlined. Measures to ensure validity and reliability were described. Ethical considerations were described. The next chapter deals with results of the study itself.

CHAPTER 4

RESULTS

4.1 INTRODUCTION

The previous chapter focused on the research methodology which encompassed research design, the study site, the study population, sampling, data collection, data analysis, validity, reliability, inclusion and exclusion criteria, and ethical considerations.This chapter deals with the data analysis based on the responses on the completed questionnaires on knowledge of and perception about antenatal services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo Province. Data analysis was done using IBM SPSS version 23. The results are presented as frequencies and percentages in tables, charts and graphs. Chi-square tests were done to determine associations between variables.

4.2 SOCIO-DEMOGRAPHIC INFORMATION OF RESPONDENTS

4.2.1 Frequency and percentage as compared to demographic information

Table 4.1: Socio-demographic Profile of Respondents

Variables (n= 393)		*F*	%
Age group	19-23	89	22.6%
	24-28	134	34.1%
	29-33	106	27.0%
	34-38	56	14.2%
	≥39	8	2.0%
Education	Primary≤	37	9.4%
	Secondary	282	71.8%
	Tertiary	74	18.8%
Marital Status	Not married	228	58.1%
	Married	165	42.0%
Occupation	Employed	57	14.5%
	Self-employed	31	7.9%
	Unemployed	305	77.7%
Gravidity	Primigravida	115	29.3%

Table 4.1 above shows that 34.1% of respondents were in the age group 24-28 yrs; followed by 29 – 33 yrs and ≥ 39 yrs. In addition, the majority of respondents had secondary education (71, 8%), while only 37 (9. 4%) had primary education or less. Furthermore, 228 (58, 1%) were unmarried; 305 (77, 7%) were unemployed and 266 (67, 7%) were multipara.

4.3 SOURCE OF INFORMATION

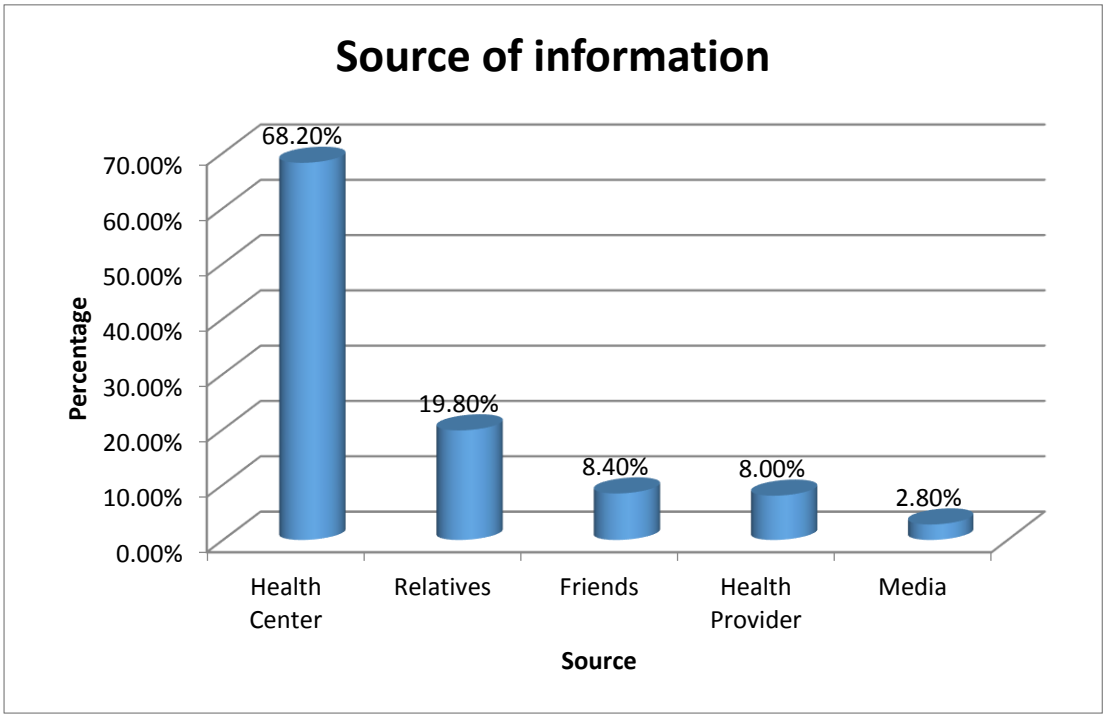

Figure 4.1: Source of Information for antenatal care

Figure 4.1 above shows that over two thirds (68,2%) of respondents received antenatal information from the health centres; followed by 19,8% who received health information from relatives and 2,8% who received this information from from the media.

4.4 KNOWLEDGE ABOUT ANC

Table 4.2: Knowledge of pregnant women about ANC services

Variables (n=393)		*f*	%
Frequency of visits	1-3 times	55	14.0%
	4-6 times	70	17.8%
	>6	63	16.0%
	Don't know	126	32.1%
Time to start Ante-Natal	1st trimester	338	86.0%
	2nd trimester	19	4.8%
	3rd trimester	5	1.3%
	Don't know	27	6.9%
Expected number of vis	≥4 visits	88	22.4%
	4≤	241	61.3%
	Don't know	52	13.2%

Table 4.2 above shows that 126 (32,1%) did not know how many times they were expected to attend antenatal care; the majority of pregnant women 338 (86,0%) reported that antenatal initiation should commence at the 1st trimester of pregnancy; 241 (61,3%) reported that the expected number of visits to a facility during their entire pregnancy should be greater than four and 243 (61,8%) reported that the antenatal care clinic could be accessed four times and more.

4.5 PERCEPTIONS ABOUT ANC

Table 4.3 Perceived Benefits of ANC as reported by respondents

Statement (n=393)	*f*	%
Establishing rapport	52	13.2%
Early detection of pregnancy associated risk	70	17.8%
For individualized care, information and communicati	79	20.1%
Receiving of pregnancy related vaccines and suppler	18	4.6%
All the above	165	**42.0%**
Don't know	9	2.3%

Table 4.3 above shows that 165 (42,0%) of respondents had positive perceptions of the benefit of ANC. Seventy nine (20.1%) respondents reported that they thought ANC provided individualized care information; while 70 (17,8%) reported early detection of risks associated with pregnancy and 52 (13,2%) reported establishing rapport as important.

4.6 ANC ACCESS AND EDUCATION

Table 4.4 ANC Access and education

Statement	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)
Pregnant woman should start initiating ANC during the 1^{s} trimester of pregnancy	**374(95. 1)**	7(1. 7%)	11(2.7)
Booking process at ANC clinic is complicated	69(17.5)	**124(31.5)**	200(50.8)
Booking process at ANC clinic is bad	**372(94.6)**	3(0.76)	18(4.5)
ANC education is helpful	261(66.4)	60(15.2)	72(18.3)
ANC education should be given	190(48.3)	46(11.7)	**157(39.9)**
I have gained a lot from ANC education	375(95.4)	18(4.5)	0
The reception area of ANC clinic is organized	284(72.2)	61(15.50	48(12.2)
Reception area is neat	266(67.6)	56(14.2)	71(18.0)

Table 4.4 on ANC access shows that 374 (95, 1%) of respondents reported that pregnant women should start initiating ANC during the 1st trimester of pregnancy with 124 (31, 5%) reporting that the booking process was complicated and 15 7(39, 9%) reported that ANC education should be given.

Table 4.5 Perceptions about Staff Behaviour

Statement	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)
Staff at the reception area is friendly and polite	**302(76.8)**	59(15.0)	32(8.1)
Staff at the observation room is friendly and polite	250(63.6)	61(15.5)	82(20.8)
Staff at the observation room is efficient and organized	295(75.0)	66(16.7)	32(8.1)
Midwife gave good attention	288(73.2)	43(10.9)	17(4.3)
Midwife was friendly and polite	314(79.8)	52(13.2)	27(6.8)
Midwife was organized and efficient	152(38.6)	49(12.4)	**192(48.8)**
There is value in initiating ANC service	**278(70.7)**	69(175)	**46(11.7)**
Staff at the observation room gives prompt attention	293(74.5)	61(15.5)	39(9.9)

Table 4.5 above shows perceptions among respondents on staff behaviour with 302 (76, 8%) of respondents agreeing that staff at the reception area are friendly and polite, 192 (48, 8%) respondents reported that the midwife was organized and efficient and 46 (11, 7%) reported that there was value in initiating ANC services.

Table 4.6 Perception vs. socio demographic information

		Total	Negative	positive	Pvalues
Age	<28 yrs.	223	111(49. 7%)	112(28. 4%)	**0,005** P=.512
	≥28 yrs.	170	84(49. 4%)	86(50. 5%)	
Marital Status	Not married(n=2	227	106(46.6)	121(53.3)	X^2 = 1,836
	Married(n=1	166	89(53. 5%)	77(46. 3%)	P=.105
Education	Primary or l	37	32(87. 8%)	5(12.1%)	**X^2 = 23,013**
	secondary	282	132(46. 8%)	150(53. 1%)	P=0,000
	tertiary	74	31(41. 8%)	43(58. 1%)	
Occupation	employed	57	19(33. 3%)	38(66. 6%)	**X^2 = 10,134**
	Self employ	31	20(64. 5%)	11(35.4%)	P=.017
	unemployed	305	156(51. 1%)	149(48. 8%)	

Table 4.6 above depicts cross-tabulation perception vs. socio demographic information. Age, education and occupation were significantly associated with perception (p<.050)

Table 4.7 Knowledge vs. socio demographic information

		Total	Poor	Fair	Good	Excellent	P values
Age	<28	223	33(14.7)	33(14.7)	50(22.4)	107(47.9)	29.334 **P=0.000**
	≥28	170	6(3.5)	12(7.0)	28(16.4)	124(72.9)	
Marital status	Not married	227	27(11.8)	26(11.4)	43(18.9)	131(57.7)	X^2 = 2,429 P=.488
	Married	166	12(7,2)	19(11.4)	35(21.0)	100(60.2)	
Educational sta	Primary or les	37	4(12,1)	0	10(30.3)	23 (62.1)	
	Secondary	282	28(9,9)	32(11.3)	54(19.1)	168(59.5)	
	Tertiary	74	7(9,4)	13(17.5)	14(18.9)	40(54.0)	

As shown in Table 4.7, Knowledge level and age of pregnant women were found to be significantly associated (p=0.000).

Table 4.8 Logistic regression on knowledge

	Odd Ratio	CI	Sign
Education	1.203	.344-4.615	.788
Age	***3.1***	***1,568-6.475***	***.001***
Occupation	1.765	.804-3.894	.598

Logistic regression involving knowledge as dependent variable and education, age and occupation as independent variables was performed (Table 4.8). The result indicates that age is a significant predictor of knowledge, at a {Or = 3.1; CI: 1.568 – 6.475; p-value of .001}

Table 4.9 Logistic regression on perception

	Odd Ratio	CI	Sign
Education	4.161	.413-41.914	.226
Age	1.015	<684-1.512	.943
Knowledge	1.197	.606-2.364	.604

In Table 4.9, education, age and knowledge were not found to be significant preditors of perception (p>0.05).

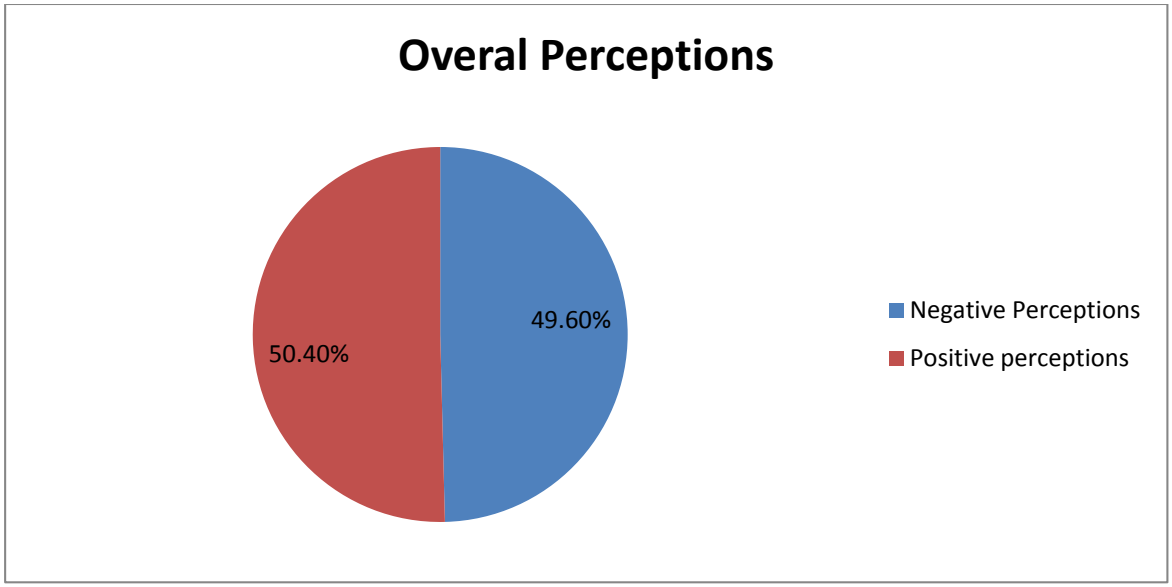

Figure 4.2 Overall perceptions of ANC service

Figure 4.2 above shows overall perception of ANC services by pregnant women in the Julesburg Local Area. Whilst half of pregnant women (50, 4%) had a positive perception of ANC services, the rest (49, 6%) of them had negative perceptions of ANC services.

4.7 CONCLUSION

This chapter described the results of the study on knowledge of and perceptions about antenatal services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo. The results focused on the socio-demographic profile of the respondents, the source of information for antenatal care, the knowledge of pregnant women about ANC services, perceived benefits of ANC, perceptions of ANC, perception of ANC in relation to demographic information, knowledge about ANC in relation to socio-demographic information, logistic regression on knowledge and perception regression. A discussion of the results will follow in Chapter 5.

CHAPTER 5

DISCUSSION OF FINDINGS, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter outlined the data analysis based on responses from the completed questionnaires on knowledge of and perception about antenatal services among pregnant women.This chapter presents a summary and discussion of the findings of the study of knowledge of and perceptions about antenatal services among pregnant women in the Julesburg Local Area. The limitation of the study and recommendations are also dealt with in this chapter. The findings of the study were outlined in the previous chapter. The objectives of the study were:

- To establish the knowledge of ANC services among pregnant women in the Julesburg Local Area in the Mopani District of Limpopo.
- To determine perceptions about ANC services among pregnant women in the Julesburg Local Area.
- To establish any relationships between demographic factors and knowledge and perceptions among pregnant women in the Julesburg Local Area.

5.2 DISCUSSION OF FINDINGS

The interpretation of the findings in this section is outlined according to the objectives of the study. All the objectives of the study were achieved.

5.2.1 Socio-demographic profile of the respondents

A total of 393 respondents participated in the study. The results show that most of the respondents were at age group 24-28 yrs. Age has been found to be a significant factor influencing the utilization of antenatal services. For example, in a study conducted in

Nigeria, it was found that women aged 21- 30 were more likely to utilized ANC services (Odetola 2015) In a study conducted in Ethiopia, maternal age was found to be a factor in the utilization of ANC services (Abose, Woldie & Ololo 2010). This study revealed that women in the age group of 25-29 years were less likely to utilize ANC services compared to those women 35 years of age and older (Abose et al. 2010). This was supported by a study conducted in Nigeria where 96,5% of women aged 20-29 were found utilise ANC services properly as compared to women in other age groups (Akanbiemu, Manuwa-Olumide, Fagbamigbe & Adebowale 2013). The majority of respondents had secondary education, followed by those who had gone to a tertiary institution. Education has been found to influence knowledge and pregnant women with good education are expected to know the importance of utilizing antenatal services. This study was supported by a study conducted in a rural area of India which revealed that pregnant women in that area had good knowledge of ANC among the educated when compared to those who were illiterate. Maternal literacy remains a key factor in the utilization of ANC services (Gupta, Shora, Verma & Jan 2015).

The results further revealed that most respondents were not married and the majority were unemployed. The fact that the majority of women were unemployed and single means that they have low socio-economic status, meaning that it may be difficult for them to access the clinic due to lack of financial resources. A study conducted the in eastern Nepal found that women with low socio-economic status could not access health care services in time due to financial constraints (Deo, Paudel, Khatri, Bhaskar, Paudel, Mehata & Wagle 2015). The support of a male partner can help pregnant women follow ANC recommended visits, encourage shared decision making and improve the health of both the mother and baby (Lincetto, Mothebosoane-Anoh, Gomez & Mujanja 2014). The fact that over half of the participants were unmarried could mean that they run a risk of being in an unstable relationship, denying them the spousal support they so desire.

Furthermore, two thirds of respondents were found to be multipara and close to a third were primigravida. Other studies in rural areas found similar results. A study conducted in a rural setting in Southern Benign revealed that 97, 3% of women were married and 30, 2% were housewives. This study also revealed that women who had been pregnant more than once

showed little interest in timely ANC visits (Edgard-Marius et al. 2015). A study undertaken in a rural Balochistan Province in Pakistan revealed that the number of previous pregnancies, maternal age and marital duration are reported to have an influence in the utilization of ANC services (Ghaffar et al. 2012).

5.2.2 Source of information for antenatal care

The results in this study regarding the source of information for ANC revealed that over two thirds of respondents received information about ANC from the health centres and the lowest number of women received information about ANC from media. A study in a rural area of the Eastern Cape reveals that an initiative from government which dispatches community health workers to the community doing door to door family visits, played an important role by discovering pregnant women in their homes whilst still in the first trimester of pregnancy and referring them to the ANC clinic. Pregnant women are also given information about pregnancy from the ANC clinic (Le Roux, Le Roux, Mbewu & Davis 2015). A study conducted in rural setting of Nepal revealed that pregnant women who were exposed to media awareness messages on radio, TV or newspapers about pregnancy and ANC were more likely utilize ANC services properly. Furthermore, a study by Acharya, Khanal, Singh, Adhikari & Gautam (2015) found that media awareness messages about pregnancy and ANC can be effective in increasing the uptake of ANC services (Acharya et al. 2015). A study conducted in Makhado municipality clinics reveals that inadequate knowledge, cultural factors and lack of appropriate services have negative influence on male partner participation and involvement on maternal healthcare services (Nesane, Maputle & Shilubane 2016).

In India, Gupta et al. (2015) found that the role of health workers in increasing awareness among mothers about the importance of ANC and pregnancy danger signs remains a concern. Awareness about ANC services is important to the community as this will improve utilization of the services.The route by which information is disseminated is even more important as it should target a specific population to ensure that the information has reached the desired target. Lack of information leads to lack of awareness about ANC services (Sanda 2014).

The role of family involvement is crucial for healthy behaviour during pregnancy and it serves as major determinant of ANC utilization (Lewis, Lee & Simkhada 2015). Establishing links between the families and the ANC clinic can increase utilization of ANC services and impact positively on maternal and neonatal mortality (Antony 2013). The South African Department of Health uses pregnancy awareness week, which is usually held in February each year, to strengthen pregnancy education, including the importance of early access to ANC services (Department of Health 2016).The South African government has also launched a mobile phone based messaging service which provides pregnant women with free ANC information (Department of Health 2016)

5.2.3 Knowledge of pregnant women about ANC services

Results of this study reveal that a third of respondents did not know the frequency of ANC visits, with the majority reporting that ANC initiation should be done in the 1st trimester of pregnancy. A study conducted in the Ekurhuleni District of Gauteng found that the majority of respondents had good knowledge of ANC but 41, 2% admitted to initiating ANC late and a third reported that they did not know when they should initiate ANC (Matyukira 2014). However, a study in Libya supports the current results that 85, 3% of pregnant women had good knowledge regarding ANC (Ibrahim, EI Borgy & Mohammed 2014). Also, in Calabar in Nigeria, it was found that the majority of pregnant women had good knowledge of ANC (Ojong et al. 2015). A study conducted in the Tshino village in the Vhembe district of Limpopo in South Africa revealed that, although women had good knowledge related to ANC, they had limited knowledge with regard to the importance of early initiation of ANC services (Maputle, Lebese, Khoza, Shilubane & Netshikweta 2013).

The current study is further supported by Shafgat, Fayaz Rahim and Saima (2015) in Pakistan, wherein 80,85% of pregnant women indicated that they have good knowledge of ANC services and they were also aware of the importance of regular visits to ANC clinics, thus reducing maternal and foetal complications. A study in India reported proper knowledge of ANC services in an urban area, however, ANC service utilization was found to be unsatisfactory (Laishram, Thounaojam, Panmei, Mukhia & Devi 2013). In South West Ethiopia, 88,2% of married women reported proper knowledge of ANC, 11,8% did not know

about ANC, 70,6% wanted to make follow up ANC visits and 29,4% did not want to make follow up ANC visits when they are pregnant (Henok, Worku, Getachew & Workiye 2015).

In summary, these findings imply that good knowledge of ANC does not always lead to good practice. In addition, the fact that pregnant women know that it is important to attend ANC, but do not know how often they should attend ANC is worrisome. Therefore, it is important for more campaigns aimed at improving areas of knowledge, as found in this current study, to be initiated.

5.2.4 Initiation of ANC service

WHO recommends that the first ANC visit should occur between 8 and 12 weeks of gestational age (WHO 2016) i.e. the first ANC visit should happen during the first trimester of pregnancy. During the first ANC visit, several assessments are conducted, which include measurement of blood pressure, measuring weight, history taking, conducting a blood examination, counselling and testing for HIV and physical assessment. After every assessment has taken place, the woman is then categorized to ascertain whether she falls into a low risk or high risk profile. This allows for planning of her care throughout their duration of pregnancy and delivery (Department of Health 2016). The WHO recommends a minimum of four visits (WHO 2016). The results of this current study show that the majority of the respondents reported that the booking process was bad and that the booking process was complicated.

Hatherall, Morris, Jamal, Sweeney, Wiggins, Kaur, Renton & Harden (2016) suggest that if women are to be encouraged to seek ANC service early in their pregnancy, the purpose and value of these services should be made clear in the communities. Hatherall et al., further suggested that women need time to accept their pregnancy and to address other priorities in their lives. Once they decide to seek out ANC services, access should be quick and efficient. They further mentioned that delivery of ANC service should be woman centred.

A study conducted in East London in the UK, reported that initial care seeking behaviour of pregnant women is influenced by the type of ANC package which is offered. Pregnant women delay initiating ANC services, especially when there are no obvious complications in their pregnancy (Hatherall et al. 2016).However, a study conducted in Cape Town in South Africa reported that of 27,713 of pregnant women who participated in the study, only 11, 2% initiated ANC in the 1st trimester of pregnancy, although they showed proper knowledge of ANC services (Beauclair, Petro & Myer 2014). Multiparous, less educated women were more likely to be associated with late initiation of ANC, in the 3rd trimester of pregnancy. During this study, the stillbirths rate in multiparous was 4,3% per 1,000 births, although results in that study show that first initiation of ANC visit had no significant effect on still birth, at odds ratio of 2,03 and 95%CI: of 1,33-2,10 (Beauclair et al. 2014).

Furthermore, a study conducted in the UK, which included 20,135 women, recorded that 12,538 (62, 5%) initiated ANC at the 1st trimester of pregnancy. This study shows that multiparous older women were more likely to initiate ANC late when compared to women under the age of 20-24 years, at the odds ratio of 0,99 and 95%CI: of 0,92-1,107(Creswell,Haterall, Morris, Jamal, Harden & Renton 2013). In contrast, in South Ethiopia, Gebremeskel, Debora & Admassu (2015) found that 82, 6% of pregnant women initiated ANC after the 1st trimester of pregnancy. Their reasons of initiating ANC late were perception of appropriate time to initiate and that they had no time (Gebremeskel et al. 2015).

A study conducted in South Ethiopia by Hamdela, Godebo & Gebrel (2015) reported that women initiate of ANC at less than four months, which is at the 1st trimester of pregnancy, and they further reported that the number of ANC visits was four and more per pregnancy, at the odds ratio of 3, 53 and 95%CI: 1,122-10, 21. In this study, number of four or more ANC visits per pregnancy has been shown to be a significant contributing factor to early ANC initiation. This implies that those who reported that ANC visits should be four and more times were three times more likely to initiate ANC services in the 1st trimester of pregnancy than women who reported that ANC services should be visited less than four times per pregnancy, at odds ratio of 3,53 and 95%CI:1,22-10,21.

5.2.5 Perception about ANC service and staff behaviour

The results of this study revealed that the majority of respondents had a positive perception of staff behaviour, with close to half of respondents reporting positive perception towards the skills of the midwife. This is a cause for concern for this minority group, as this may impact on the utilization of ANC services. The overall perception of ANC services in this study showed that half of the respondents had a positive perception of ANC services and, similarly, half had a negative perception of these services. Demographic information reveals that the respondents who were under the age of 28 years showed positive perceptions, with a p-value of 0,005, which indicates that age was marginally significantly associated to perception. Regression analysis showed that education was a significant predictor of one's perceptions [odd ratio of 4,161 and 95% CI of .413-41,914 and a p-value of .226]. Reasons for poor perception were mainly based on disorganization and inefficiency on part of the midwife and because of complicated booking processes.

The results of the current study are supported by a study conducted in Calabar, Nigeria, where it was found that 43, 3% of pregnant women were satisfied with ANC services. This was associated with long waiting time and lack of traditional care resulting from a lack of knowledge about ANC services (Ojong et al. 2015).In addition, in South West of Nigeria, two thirds of women had a negative attitude towards ANC services. This was associated with lack of knowledge about ANC. Among factors which contributed to this negative perception were the location of the ANC service and sources of information about ANC services (Fagbamigbe et al. 2013).

Contrary to the current study, Eddie et al (2015), in a study undertaken in Cameroon, found that the majority of pregnant women were satisfied with the ANC service. However, the study also found that those women with high education were more likely to be unsatisfied with the ANC service in that area. Pregnant women in this study indicated that they were dissatisfied with toilet facilities, cleanliness, congestion, laboratory results turnaround time and they felt that health education should be more detailed.

Again in a study in Nigeria, the majority of pregnant women reported satisfaction with ANC services, however, a minority group who expressed dissatisfaction said that they experiences unfriendly attitude of staff and delays at service points. Those who were satisfied were satisfied because of health talks, prompt attention and friendly and polite staff

(Ekott et al.2013).This was further supported by another study conducted again in Nigeria, which reported that 85, 6% of respondents said that they were satisfied with the attitude of nurses and with the ANC service received. However, there was minority group which rated nurse's attitude as poor, although they were satisfied with the ANC service (Nwaeze, Enabor, Oluwasola & Aimakhu 2013).

Results of this study further reveal that only 20% of respondents were in favour of individualized care information and 17, 8% on early detection of risks associated with pregnancy and respondents on established rapport. Mathibe-Neke (2008) stated that the plan of care should be acceptable to the client and directed at meeting the individual needs, while considering each pregnancy for each woman. It further stated that every woman should be understood and respected as an individual in order to meet their needs. Midwifery should be sensitive to the pregnant woman's feelings. In their study, Younger, Hollins-Martin & Choucri (2015) revealed that pregnant women experience high levels of anxiety which can lead to perinatal morbidity. Some aspects of the ANC service was identified as resulting in reduced anxiety levels.

Building rapport and trust with clients is important to ensure that clients feel comfortable enough to share their problems and discuss sensitive issues (Baffour-Awuah, Mwini-Nyaleddzigbor & Ritcher 2015). Hieman, Sword, Elliot, Mofatt, Helewa, Morris, Gregory Tjaden & Cook (2015) stated that individualized care allows health workers to connect to and develop a relationship with their clients based on mutual trust and respect.

5.3 LIMITATIONS OF THE STUDY

The study had some limitations. The study was conducted in one local area of the Greater Tzaneen Municipality and results cannot be generalised to the entire nation, since findings may differ from province to province. The study used a self-administered questionnaire to determine knowledge of and perceptions about antenatal services among pregnant women and there is a possibility that responses given do not give a true reflection. Health providers were not included in the study in this case. If they were to have been included they could have shared their challenges regarding service delivery. There were a number of neutral responses and these may have affected the scores either negatively or positively.

5. 4 CONCLUSION

The results show that pregnant women have adequate knowledge regarding ANC services, at 86, 0%.Perceptions about ANC services is average, at 50 4% and about 49,6% of the participants has a poor perception of the ANC service, although they indicated good perceptions of staff behaviour, at 76,8%. The respondents were not confident of the skills of staff, at 48, 8% .Their response revealed that staff skills were inefficient and that the booking process was complicated. However, with respect to the source of information, although the health centre scored 68, 2%, findings shows that there was little involvement of community members and the media. Findings also reveal that there was no association between educational level of respondents and their knowledge of ANC services. From the findings, it is apparent that pregnant women in the Julesburg Local Area have sufficient knowledge regarding ANC services; however, they have poor perceptions of ANC services. Therefore, there is a need to improve staff skills, access to ANC services and the link between the community and media.

5.5 RECOMMENDATIONS

Antenatal services are of great importance to further reduce maternal and neonatal deaths as most of these deaths are avoidable.

5.5.1 Practice

The booking process needs to be simplified to accommodate the individual needs of pregnant women. Policy makers should implement changes by strengthening the health care delivery system, taking into consideration the end care user of ANC services. Health information with regard to the importance of early ANC initiation and frequency of ANC visits needs to be intensified. Health information dissemination should also involve partners and family members to ensure support and encouragement to utilize ANC services properly. Communication between pregnant women and health workers at ANC clinics need to be strengthened. Media information exposure also needs to be strengthened by involving the radio, television and the use of billboards.

5.5.2 Education

It is recommended that the Department of Health strengthen the training programme of staff by providing further training exposure. There is a need for midwives to gain

skills in establishing mutual relationship with pregnant women to ensure maximum utilization of ANC services.

5.5.3 Research

Further research is recommended on initiation behaviour by pregnant and access to ANC services. Staff experiences working at ANC clinic and availability of resources also need to be researched

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Appendix A: Questionnaire English version

Section A: Demographic Information

(Tick on the appropriate item).

(a). Socio-demographic information

1. Age category (tick where appropriate)

19-23	1
24-28	2
29-33	3
34 -38	4
39 and above	5

2. Educational Level

None	1
Primary	2
Secondary	3
Tertiary	4

3. Marital Status

Single	1
Married	2
Divorced	3
Widowed	4

4. Occupational Status

Employed	1

Self employed	2
Unemployed	3

5. Gravidity (Indicate the number of pregnancies that you had).

Primi-para(first pregnancy	1
Multi-para(more than one pregnancy)	2

6. How did you hear about antenatal care services?

Through friends	1
Trough relatives	2
During a visit to health institution	3
Trough media	4
Through health awareness by health Providers	5
None of the above	6

Section B: knowledge about ANC services (Choose the appropriate item)

7. How many times should a woman attend ANC?

1-3 times	1
4-6 times	2
Over ten times	3
Don't know	5

8. When is the time to start initiating antenatal care?

1st trimester	1
2nd trimester	2
3rd trimester	3
Don't know	4

9. What is the expected number of visits a woman should have to make during pregnancy to antenatal care clinic?

< 4 visits	1
4 or more visits	2
Don’t know	3

10. How often do you need to access antenatal care services?

Once	1
Twice	2
Three times	3
Four times	4
Four times and more	5
Don’t know	6

11. What are the benefits of antenatal care services?

Establishing support	1
Early detection of pregnancy associated ris	2
Assist health providers to give individualize Information, education, communication and Care	3
Reception of pregnancy related vaccines a Supplements	4
All of the above	5
Don’t know	6

12. What is the number of antenatal visits a pregnant woman has to make if there are no pregnancy related problems?

< 4 visits	1
4 Visits	2
>4 visits	3
Don’t know	4

13. What is the number of visits a pregnant woman has to make if there is a pregnancy related problems?

< 4 visits	1

4 visits	2
>4 visits	3
Don’t know	4

14. What are some of the pregnancy danger signs during pregnancy?

Vaginal bleeding	1
Swollen hands, feet, face or all	2
Blurred vision	3
Abdominal pains	4
Fever	5
Severe headache	6
All of the above	7
Don’t know	8

15. What are some of the danger signs during labour and delivery?

Profuse bleeding	1
Prolonged labour of more than twelve hour	2
Convulsions	3
Retained placenta	4
Generalized weakness or collapse	5
All of the above	6
Don’t know	7

16. What are some of the danger signs during postpartum?

Severe vaginal bleeding	1
Foul smelling vaginal discharge	2
High fever	3
Abdominal pains	4
All of the above	5
Don’t know	6

17. What are some of the components of birth preparedness?

Saving money for use in emergencies or during labour	1
Preparations for place of birth	2
Identifying transport in case of emergency And during labour	3
All of the above	4
Don't know	5

Section C: **Perceptions about antenatal services. (Indicate with an "x" your option)**

	Agree	Strongly Agree	Neutral	Disagree
18. A pregnant woman should start initiating ante natal care during the first trimester	1	2	3	4
19.The booking process at the antenatal clinic is complicated	1	2	3	4
20.The booking process at the antenatal clinic is good	1	2	3	4
21.The booking process at the antenatal clinic is bad	1	2	3	4
22. Antenatal education is helpful	1	2	3	4
23. Antenatal education should be given	1	2	3	4
24. I have gained a lot from antenatal education	1	2	3	4
25.The reception area of the antenatal clinic is organized	1	2	3	4

26.Staff at the reception area is friendly and polite	1	2	3	4
27.Reception area is neat	1	2	3	4
28.Staff at the vital signs room is friendly and polite	1	2	3	4
29.Staff at the vital signs room gives prompt Attention	1	2	3	4
30.Staff at the vital signs room is efficient ar Organized	1	2	3	4
31.The midwife gave good attention	1	2	3	4
32.The midwife was friendly and polite	1	2	3	4
33.The midwife was organized and efficient	1	2	3	4
34.There is value in initiating antenatal care	1	2	3	4

Appendix B: Questionnaire Sepedi Version

Karolo ya A

1. Karagano go ya ka mengwaga (Supetsa mengwaga ka palo)

18-23	1
24-28	2
29-33	3
34-38	4
39 go ya godimo	5

2. Thuto

A gaya sekoloni	1
Ki fihlile primary	2
Ki fihlile High School	3
Ki fihlile University kappa College	4

3. Seemo sa manyalo

A ka nyala	1
Ke nyetsi	2
Ke fapane le mona	3
Mona waka o hlogofetsi	4

4. Seemo sa o bereka

Ka bereka	1
Ka di bereka	2
A ki bereki	3

5 Seemo sa pelego (Supetsa dimpa tse o bile li tsona)

E ki mpa a mathomo	1
E ki mpa a bo bedi le o buda	2

6. O kwele kae ka kliniki ya boimana?

Ka mogwera	1
ka mashaka	2
Ka nako ye ke beng ke etetse kliniking gob sepetlele	3
ka tlagiso leseding (seyalemoya, theleviser kga kgathisobaka	4

Karolo ya B

Diputsiso

- **Diphutsiso mabapi le tsebo le tswelopele ya baimana (Kheta karolo ya maleba mo go)**

7. Ke ga kae fao moimana a swanetsego go tla sekaleng sa baimana?

1-4 kanako	1
4-6 kanako	2

6-10 kanako	3
10 le go feta	4
Gantsintsi	5
Ga ke tsebe	6

8. Ke neng mo mosadi wa moimana a swanetseng ke go thoma sekala?

Kgwedi tse tharo tsa mathoma tsa boimana	1
Kgwedi tse tsheelalago tsa mathoma tsa boimana	2
Kgwedi tse senyana tsa boimana	3
Ga kena tsebo	4

9. Ke ga kae fao mosadi wa moimana a swanetseng go etela kliniking ya baimana nakong yeo a imile?

Ka tlase ga ketelo tse nne	1
Tse nne goba gofeta	2
Ga kena tsebo	3

10. Ke ga kae fao gore mosadi wa moimana a swanetseng go etela dikarolo tsa thuso ya baimana?

Ga tee ka nako	1
Ga bedi ka nako	2
Ga raro ka nako	3

Ga nne ka nako	4
Ga nne goba gofeta	5
Ga ke nna tsebo	6

11. Ke dipoelo dife tse botse tseo baimana ba humanago ge ba etela mafelo a hlokomelo ya baimana?

Go aga kgweraolo magareng ga moimana tsa maphelo	1
O ka humana tshedimoso ka pela mabapi tse mpe ka boimana bja gago ka nako	2
Go thusa basomi ba tsa maphelo ka go go tshedimoso ka gago, go boledisana le hlokomelo	3
Go humana dinalete le dithare tsa boimana	4
Dikarabo kamoka tsa ka godimo ke tsona	5
Ga ke nna tsebo	6

12. Keg a kae fao miomana a swanetsego go etela klinikini ya boimana le ge a sena bothata le boimana bja gagwe?

Tlase ga ketelo tse nne	1
Ga nne	2
Ga ke nna tsebo	4

13. Keg a kae fao moimana a swanetsego go etela klinikini ya baimana ge a na le mathata le boimana bja gagwe?

Tlase ga etelo tse nne	1
Ga nne	2
Ka godimo ga ketelo tse nne	3
Ga ke nna tsebo	4

14. Ke dika dife tse kotsi tsa boimana tsego ditshwelelago ge masadi moimana?

Go tsula madi setong sa bosadi	1
Go bipa matsogo, maoto, sefahlego goba go bipa dilo tse ka moka ga tsona	2
Go tshwara ledikuluko/ go bona dihlase	3
Go ba le dithlabi mo dimpeng	4
Go ba le go fisa mmeleng	5
Go opela ke hlogo ka maatla	6
Dikarabo tse kamoka ke tsona	7
Ga ke nna tsebo	8

15. Ke dika dife tse kotsi nakong ya go swoka le ya go belega?

Go tswa madi ka maatla mo setong sa bos	1
Go tsea lebaka le letelele la go swoka go f diiri tse lesome pedi	2

Go dudumela a idibetse	3
Go swalela ga ntlo ya ngwana ka popelong	4
Go fela maatla o wela fase	5
Dikarabo tse kamoka ke tsona	6
Ga ke nna tsebo	7

16. Ke dika dife tse dimpe dika tswelago ka nako ya botswedtsi?

Go tswa madi ka maatla mo setong sa bos	1
Go tswa ditshila tsa go nkga ka maatla mo setong sa bosadi	2
Go fesa ga mmele ka maatla	3
Go ba le dihlabi mo dimpeng	4
Dikarabo tse kamoka ke tsona	5
Ga ke nna tsebo	6

17. Ke eng dika tse bohlokwa tseo moimana a swanetsego go di dira go ithukisetsa go belega?

Go boloka tsheletse ya goishomisa ka nak tshogametso gob aka nako ya leswoko	1
Go lokisa lefelo la go belega	2
Go lokisa koloi ya go e berekisa ka nako y tshoganetso goba ka nako ya leswoko	3
Dikarabo tse kamoka ga se tsona	4

Ga ke nna tsebo	5

- **Dipositso mabapi le kgopolo ka mesomo ya baimana (kheta karabo ya maleba)**

	1.Ka dumela	2.Ka dumela ka mattla	3.Ke magarini ya go dumela le go gana	4.Ga ke dumeli
17. Moimana swanetse gwedi tse tharo tsa boimana				
18. Go bohlokwa go thoma sekala sa boimana				
19.Tshepidiso ya go engwadisa kliniking ya baimana e hlakahlakane				
20.Tshepidiso ya go engwadisa klinikini ya baimana e botse				
21. Tshepidiso ya go ngwadisa iklinikini ya baimana e mpe				
22. Dithutotsa baimana di na le mohola				
23. Thuto ya baimana e swanetse go fiwa				
24. Ke rutegile kudu ka thuto ya baimana				
25. Ka mo baimana ba amogelwago ka gona beakantswe				
26. Basomi ba bareamogelago ba sega ebile le botho				
27. Mo re amogelwago go botse				

28. Bathusi ba kamora ya blood pressure ba lerato				
29. Bathusi ba kamora ya di blood pressure thuso ka pela				
30. Bathusi ba kamora ya blood pressure ba dilo ga botse				
31.Ba bereki ba go cheka(sister) baimana hlokomela botse				
32. Ba beregi ba go cheka baimana(sister) ba ebile ban ale botho				
33. Ba belekisi ba beakantswe ka lenanego				
34. Go na le bohlokwa sekaleng sa baimana				

Appendix C: Questionnaire Xitsonga Version

Xiyenge xa A: Vutivi mayelana na munhu (Rhayita laha swi nga fanela)

(a)Vutivi mayelana na swa vutomi

1. Xiyenge xa malembe (Kombisa malembe ya wena hi nhlayo)

18-23	1
24-28	2
29-33	3
34-38	4
39 wa malembe ku ya henhla	5

2. Vutivi mayelana na swa tidyondzo (rhayita lomu u nga fika kona hi swa tidyondzo)

A ni yanga xikolweni	1
Ni fike ephurayimari	2
Ni fike exikolweni xa le henhla	3
Ni yise tidyondzo emahlweni eyunivhesiti k kholichi	4

3. Vutivi mayelana na swa vukati

A ni tekiwanga	1
Ni tekiwile	2
Ni hambane na nuna	3
Ni muferiwa	4

4. Vutivi mayelana na swa ntirho

Na tirha	1
Na ti tirha	2
A ni tirhi	3

6. Vutivi mayelana na swa vuyimana

Loku I ku tika ko sungula	1
Loku I ku tika ka vumbirhi kumbe ku tlula	2

7. Xana u twile hi vamani mayelana na vukorhokeri bya vuyimana?

Hi vanghana	1
Hi maxaka	2
Loko ni vhakachele ndzhawu ya swa rihanyo (Klinikini	3
Ni swi twile hi va n'wa-mahungu(r hadiyo, thelevhixini kumbe nyuziphepha	4

Xiyenge xa B: Swivutiso

- **Swivutiso mayelana na vutivi hi vukorhokeri bya vuyimana(hlawula nhlamulo leyi nga fanela)**

8. Xana wansati wa muyimana a nga vhakachela kangani vukorhokeri bya vuyimani eklinikini?

Kan'we kumbe ku fika kanharhu	1

Ka mune kumbe ku fika ka khume	2
Ku hundza ka khume	3
A nga vhakacha ka ku tala	4
A ni swi tivi	5

9. Hi wihi nkarhi lowu muyimana a nga sungulaka xikalo hi wona eka vuyimana bya yena?

Eka tin'wheti tinharu to sungula eka vuyima bya yena	1
Loko a ri na tin'wheti ta ntsevu eka vuyima bya yena	2
Loko a ri na tin'wheti ta ntsevu eka vuyima bya yena	3
A ni swi tivi	4

10. Xana muyimana u languteriwa ku vhakachela klinikini ya vuyimana ku fika kangani loko a ri muyimana?

Kan'we	1
Kambirhi	2
Kanharhu	3
Ka mune	4
Ka mune kumbe ku tlula	5
A ni swi tivi	6

11. Hi swihi swa kahle leswi u nga swi kumaka eka vukorhokeri bya vuyimana?

Ku endla vuxaka exikarhi ka muyimana na mukorhokeri wa swa vuyimana	1
Ku humelerisa swiphiqho erivaleni mayelar vuyimana bya mina	2
Swa pfuna ka vukorhokeri bya swa rihanyc leka mina ku van i nyikiwa vutivi mayelana na swa vuyimana, tidyondzo ta vuyimana, mbhurisano xikarhi ka vuyimana na vakorhokeri va swa vuyimana na ku hlayisiwa.	3
Ku amukela tijhekisoni ta vuyimana na ma ya vuyimana	4
Hinkwato tinhlamulo leti laha henhla hi Tona	5
A ni swi tivi	6

12. Xana muyimana a nga vhakachela ndhawu ya vukorhokeri bya swa vuyimani kangani loko vuyimana bya yena byi nga ri na swiphiqo?

Ehansi ka mune wa ku vhakacha	1
Ku vhakachela ka mune	2
Ku hundza ka mune wa ku vhakachela	3

A ni swi tivi	4

13. Xana muyimana a nga vhakachela ndhawu ya vukorhokeri bya swa vuyimana kangani loko vuyimana bya yena byi ri na swiphiqo?

Ehansi ka mune wa ku vhakacha	1
Ku vhakacha ka mune	2
Ku hundza ka mune wa ku vhakacha	3
A ni swi tivi	4

14. Hi swihi swikombiso swa leswaku myimana a nga va a ri na swiphiqo evuyimanini lebyi a nga ka byona?

Ku huma ngati exirhweni xa yena xa Xisati	1
Ku pfimba mavoko, milenge kumbe xikandza kumbe ku pfimba tindhawu leti hinkwato xikan'we	2
Ku vona xilo xin'we xi huma kambiri (ku kh hi nsululwani)	3
Ku pandza kumbe ku vava hi makhwiri	4
Ku pandza hi nhloko swnene	5
Hinkwato tinhlamulo leti laha ehenhla	6

hi tona	
A ni swi tivi	7

15. Hi swihi swkombiso swa leswaku muyimana a nga va a ri na swiphiqo hinkarhi wa ku lumeriwa ku bebula kumbe loko a ri ku bebuleni?

Ku huma ngati ngopfu hi le xirhweni xa yena xa xisati	1
Ku va a lumiwa ku yak u bebuleni nkarhi wa ku leha wa ku hundza ti awara ta khume mbirhi	2
Ku wa u rhurhumela u karhi u nga twi nchuma	3
Ku va yindlo ya n'wana yi alela endzeni ka xivelekelo endzhaku ka ku bebula	4
Ku helela hi matimba na ku wa	5
Hinkwato tinhlamulo leti laha ehenhla hi Tona	6
A ni swi tivi	7

16. Hi swihi swikombiso swa leswaku ntswedyana a nga va a ri na swiphiqo endzhaku ka masiku manharhu ku fika ka masiku ya makume mune mbirhi loko a beburile?

Ku huma ngati swinene hi le	1

xirhweni xa yena xa xisati	
Ku huma thyaka leri nuwhaka hi le xirhweni xa ye xa xisati	2
Ku hisa miri swinene	3
Ku vava kumbe ku pandza hi makhwiri	4
Hinkwato tinhlamulo leti laha ehenhla hi tona	5
A ni swi tivi	6

17. Hi swihi swa nkoka leswi muyimana a faneleke a tshama a swi lunghisile ku tilunghisela ku bebula?

Ku veka kumbe ku hlayisa mali ethlelo yak yimela ku yi tirhisa loko ku tshuka ku vana swiphiqo mayelana na vuyimana bya yena kumbe ku yi tirhisa loko a lumiwa ku y bebula	1
Ku tiva lomu a faneleke ku bebulela kona	2
Ku tshama a lunghisa xa ku famba loko ku tshuka ku humelele swiphiqo mayelana na vuyimana kumbe loko a lumiwa ku yak u bebuleni	3
Hinkwato tinhlamulo leti laha ehenhla hi	4

Tona	
A ni swi tivi	5

- **SWIVUTISO MAYELANA NA KU TITWA HI VUKORHOKERI BYA VUYIMANA (hlawula nhlamulo leyi nga fanela u kombisa hi “x”)**

	1.Na pfumela	2.Na pfumela swinee	3.Ni le xikarhi ka ku pfumela kumbe ku ala	4.Na ala
18. Muyimana u fanele a sungula xikalo tin’wheti tinharhu ta ku sungula eka vuyimana lebyi a nga ka byona				
19. Muyimana u fanele a sungula xikalo n’wheti ya vuntsevu eka vuyimana lebyi a nga ka byona				
20. Swi na kuna nkoka ku sungula ku fambelavukorhokeri bya vuyimana eklinikini loko u ri muyimana				
21.Vukorhokeri bya vuyimana loko wa ta ro sungula ku ta kombela vukorhokeri lebyi eklini ini byi kahle				

22. vukorhokeri bya vuyimana loko wa ta ro su gula ku ta kombela vukorhokeri lebyi eklinikini bya tika				
23. Tidyondzo leti nyikiwaka ta vuyimana eklini ini ya vuyimana tina nkoka				
24. Vatirhi va ndzhawu yaku amukela vayiman Va endla vuxaka hi ku olova				
25.Ndzhawu yaku amukela yi basile				
26.Endzhawini yaku amukela vayimana, ni Nyikiwe ku pfuniwa hi nkarhi lowu nga heteki Mbilu				
27. vukorhokeri endzhawini ya ku kambela ntiko na blood pressure byi tile hi nkari low heteku mbilu				
28.Vatirhi endzhawini yak u kambela ntiko na Blood pressure va endla vunghana hi ku olo kona va hlonipha				
29. Vatirhi endzhawini leyi yak u kambela ntiko Na blood pressure va tshama va lunghekile na vana vuswikoti				
30. Vatirhi endzhawini yaku kambela ntiko na pressure va ringeta				

31. vukorhokeri bya vatirhi va ku kambela vayimana (sister) va nyika nkari wa ku ringanela				
32.Vukorhokeri bya vatirhi va ku kambela vayimana(sister) byi tile endzhaku ka nkari wa ku heta mbilu				
33. Vatirhi va ku kambela vayimana(sister) va Na vuxaka na kona va hlonipha				
34. Vatirhi va ku kambela vayimana van a Vuswikoti na kona va tshama va lunghile				

Appendix D: Consent Form English Version

UNIVERSITY OF LIMPOPO (Turf loop Campus) ENGLISH CONSENT FORM

Statement concerning participation in a Clinical Trial/Research Project*.

Name of Study: **KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMEN IN JULESBRG LOCAL AREA, MOPANI DISTRICT IN LIMPOPO PROVINCE**

I have heard the aims and objectives of the proposed study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this Study is completely voluntary and that I may withdraw from it at any time and without supplying reasons. This will have no influence on the regular treatment that holds for my condition neither will it influence the care that I receive from my regular doctor.

I know that this Study has been approved by the Medunsa Research and Ethics (MCREC), University of Limpopo (Turfloop Campus). I am fully aware that the results of these results of this Study will be used for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby give consent to participate in this Study.

.....

.....

Name of patient/volunteer Signature of patient or guardian.

....

Place. Date. Witness

Statement by the Researcher

I provided verbal information regarding this Study
I agree to answer any future questions concerning the Study as best as I am able.
I will adhere to the approved protocol.

....

Name of Researcher Signature Date

Appendix E: Sepedi Consent Form Version

UNIVERSITY OF LIMPOPO (Turfloop Campus)

Setatamente mabapi le go tšea karolo ka go Protšeke ya Dinyakišišo tša Teko ya Klinikhale *.

Leina la Protšeke / Dinyakišišo / Teko* **KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMEN IN JULESBRG LOCAL AREA, MOPANI DISTRICT IN LIMPOPO PROVINCE**

Ke kwele ka ga tshedimošo mabapi le maikemišetšo le morero wa* dinyakišišo tšeo di šišintšwego gomme ke ile ka fiwa monyetla wa go botšiša dipotšišo gomme ka fiwa nako yeo e lekanego gore ke naganišiše ka ga taba ye. Ke tloga ke kwešiša maikemišetšo le morero wa dinyakišišo tše gabotse. Ga se ka gapeletšwa go kgatha tema ka tsela efe goba efe.

Ke a kwešiša gore go kgatha tema Dinyakišišong tše ke ga boithaopo gomme nka tlogela go kgatha tema nakong efe goba efe ntle le gore ke fe mabaka. Se se ka se be le khuetšo efe goba efe go kalafo yaka ya ka mehla ya maemo a ka gape e ka se huetše le ge e ka ba tlhokomelo yeo ke e humanago go ngaka yaka ya ka mehla.

Ke a tseba gore Dinyakišišo tše di dumeletšwe ke Medunsa Campus Research and Ethics (MCREC), Yunibesithi ya Limpopo (Khamphase ya Medunsa) / Dr George Mukhari Hospital.Ke tseba gabotse gore dipoelo tša Dinyakišišo di tla dirišetšwa merero ya saense gomme di ka phatlalatšwa. Ke dumelelana le se, ge fela bosephiri bja ka bo ka tiišetšwa.

Mo ke fa tumelelo ya go kgatha tema Dinyakišišong.

.....
Leina la molwetši/ moithaopi Mosaeno wa molwetši goba mohlokomedi.

……
....
....
Lefelo.
Letšatšikgwedi.
_____Thlatse_____

Setatamente ka Monyakišiši

Ke fana ka tshedimošo ka molomo mabapi le Dinyakišišo.
Ke dumela go araba dipotšišo dife goba dife tša ka moso mabapi le Dinyakišišo ka bokgoni ka moo nka kgonago ka gona.
Ke tla latela melao yeo e dumeletšwego.

....……

Leina la Monyakišiši Mosaeno Letšatšikgwedi
Lefelo

Appendix F: Xitsonga Consent Form Version

YUNIVHESITI YA LIMPOPO(TURFLOOP CAMPUS)

Ku hlamusela mayelana na ku nghenelela ka tiklinikali swikambelwana/Nkambisiso

Vito ra Nkambisiso: **KU TIVA NA KU TI TWA MAYELANA NA VUKORHOKERI BYA VUYIMANA EKA VAYIMANA VA NDHAWU YA JULESBURG LOCAL AREA E MOPANI DISTRICT A LIMPOPO**

Ni byeriwile mayelana na leswi ntirho lowu wa nkambisiso wo lavak ku swi humelerisa. Ni nyikiwile nkarhi wa ku vutisa swivutiso na ku hleketa hi nkambisiso lowu. Humeleriso wa nkambisiso lowu wa twisiseka ku ringana eka mina. A ni tshikeleriwanga ku nghenelela ka nkambisiso lowu.

Na swi twisisa leswaku ku nghenelela ka nkambisiso lowu I ku tiyimisela hi ku hetiseka na leswaku na pfumeleriwa ku tshika nkarhi un'wana na un'wana handle ka ku nyika swivangelo.

Nkambisiso lowu a wu nga ngheneleli ka ku amukela vutshunguri eka xiyimo lexi ni nga ka xona kumbe ku nghenelela ku amukela vuhlayiseki hi vatirhi va swa rihanyo.

Na swi tiva leswaku nkambisiso lowu wu nyikiwe mpfumelelo hi Medunsa Research Ethics Council (MREC)., Yunivhesiti ya Limpopo (Turfloop Campus).N swi tiva swi helerile leswaku mbuyelo wa nkambisiso lowu wu ta tirhisiwa eka ntirho wa sayense na swona wu ta kandziyisiwa.Na pfumela eka leswi, ehenhla ka loko xihundla xi tshembhiswa na ku hlayisiwa na kona swi tiyisiwa.

Hi ko kwalaho ni nyika mpfumelelo ku nghenelela ka nkambisiso lowu.

…… ……
Vito ra muvabyi/Mutiyimiseri Nsayino wa muvabyi/kumbe Muhlayisi

……. …….. ……..
Ndhawu Siku Muvoni

Xitatimende hi mukambisisi

Ni nyikile nhlamuselo mayelana na nkambisiso lowu

Na pfumela ku hlamula swivutiso na le ka nkarhi lowu taka.

Ni ta landzelela nawu wa nkambisiso

…….. …… ……

Vito ra Mukambisisi

Nsayino Siku

Appendix G: Ethical clearance

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2212, Fax: (015) 268 2306, Email:noko.monene@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

MEETING:	02 September 2015
PROJECT NUMBER:	TREC/114/2015: PG
PROJECT:	
Title:	Knowledge and perceptions about Ante Natal Care Services by pregnant women at Julesburg Local Area, Mopani Districts in Limpopo Province
Researcher:	Ms L Maluleke
Supervisor:	Mr SF Matlala
Co-Supervisor:	Prof L Skaal
Department:	Medical Sciences, Public Health and Health Promotion
School:	Health Science
Degree:	Masters in Public Health

PROF TAB MASHEGO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:
i) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.**
ii) **The budget for the research will be considered separately from the protocol.**
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

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Appendix H: Permission letter from Limpopo Department of Health

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Latif Shamila

Ref:4/2/2

Maluleke L
University of Limpopo

Greetings,

RE: Knowledge and perceptions about Ante Natal Care Services by pregnant woman at Julesburg Local Area, Mopani Districts in Limpopo Province

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
    - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
    - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
    - In the course of your study there should be no action that disrupts the services.
    - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
    - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
    - The above approval is valid for a 3 year period.
    - If the proposal has been amended, a new approval should be sought from the Department of Health.
    - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

Head of Department

Date 18/02/16

18 College Street, Polokwane, 0700, Private Bag x9302, POLOLKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: http/www.limpopo.gov.za

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Appendix I: Permission letter from Mopani District

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

MOPANI DISTRICT

Ref : 4/2/2
Enq : Hlongwane R.J.
Tel : 015 811 6571

Date : 04 May 2016

To : Ms. Maluleke L.
University of Limpopo
P.O. Box X1106
Sovenga,0727

RE: KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMAN AT JULESBURG LOCAL AREA, MOPANI DISTRICT IN LIMPOPO PROVINCE.

1. The above matter bears reference.

2. Permission to conduct the above mentioned study is hereby granted as per the approval by the Head of Department. etter dated 18/02/2016.

3. Kindly be informed that:

   - Your research will be done in Julesburg Local Area facilities i.c. Carlotta, Jamela, Mogapeng, Tours and Zangoma clinics and Julesburg Health Centre.
   - In the course of your study there should be no action that disrupts the services.
   - After completion of the study, a copy should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a period of 3 years with effect from approval by the DEM as stated by the HOD.

Wishing you the best during your research.

District Executive Manager
Date: 23/05/2016

Private Bag X628, GIYANI, 0826
Tel: 015 811 6500 Fax: (015) 812 3162 Website: http://www.limpopo.gov.za

APPENDIX J: Letter from Editor

The Computer Room

Desktop Publishing • Web Design • Proof Reading • Editing

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Date: 6 February 2017

To Whom it May Concern

I hereby confirm that I have proof-read the document entitled: "KNOWLEDGE AND PERCEPTIONS ABOUT ANTE NATAL CARE SERVICES BY PREGNANT WOMEN AT JULESBURG LOCAL AREA OF MOPANI DISTRICT IN LIMPOPO PROVINCE" authored by Lucy Maluleke

Each of us has our own unique voice as far as both spoken and written language is concerned. In my role as proof-reader I try not to let my own "written voice" overshadow the voice of the author, while at the same time attempting to ensure a readable document.

Please refer any queries to me.

Andrew Scholtz